

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	7	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	US- PGPUB; USPAT
2	BRS	L2	1	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	EPO
3	BRS	L3	0	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	DERWEN T
4	BRS	L4	0	(pore or porous) near8 polymer near8 (film or layer or medium or coating) same (hologram or holographic)	IBM_TD B
5	BRS	L5	86	(pore or porous) near8 (film or layer or medium or coating) same (hologram or holographic)	US- PGPUB; USPAT
6	BRS	L6	4	5 and hydroxyethyl near8 methacrylate	US- PGPUB; USPAT

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FILE 'HOME' ENTERED AT 17:01:20 ON 25 APR 2007

=> file caplus compendex inspec

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FILE 'INSPEC' ENTERED AT 17:01:34 ON 25 APR 2007

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=> s (pore or porous) (8w) (film or layer or medium or coating) (p) (hologram or
holographic)

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'COATING' (P)

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH

FIELD CODE - 'AND' OPERATOR ASSUMED 'COATING' (P)

L1 77 (PORE OR POROUS) (8W) (FILM OR LAYER OR MEDIUM OR COATING) (P)
(HOLOGRAM OR HOLOGRAPHIC)

=> s (pore or porous) (8w) (film or layer or medium or coating) (s) (hologram or
holographic)

L2 50 (PORE OR POROUS) (8W) (FILM OR LAYER OR MEDIUM OR COATING) (S)
(HOLOGRAM OR HOLOGRAPHIC)

=> s l1 and hydroxyethyl (6w) methacrylate

L3 0 L1 AND HYDROXYETHYL (6W) METHACRYLATE

=> s l1 and hydroxyethyl (8w) methacrylate

L4 0 L1 AND HYDROXYETHYL (8W) METHACRYLATE

=> s l1 and hydroxyethyl (s) methacrylate

L5 0 L1 AND HYDROXYETHYL (S) METHACRYLATE

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PROCESSING COMPLETED FOR L2

L6 36 DUPLICATE REMOVE L2 CAPLUS (14 DUPLICATES REMOVED)

=> display -l6 1-36 ibib abs

L6 ANSWER 1 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:606258 CAPLUS
DOCUMENT NUMBER: 145:93113
TITLE: Porous holographic film
INVENTOR(S): Van Heesch, Christianus M.; Sanchez, Carlos; Escuti, Michael J.; Bastiaansen, Cornelis W. M.; Broer, Dirk, J.
PATENT ASSIGNEE(S): Dutch Polymer Institute, Neth.
SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006064431	A2	20060622	WO 2005-IB54150	20051209
WO 2006064431	A3	20060914		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.: EP 2004-106543 A 20041214

AB The present invention relates to a method for the manufacture of a holog. film. The method includes a polymerizable composition that comprises monomers with high reactivity, monomers with low reactivity and a non-reactive material. The method comprises a patterned exposure to obtain a patterned polymerization of the monomers with high reactivity and a subsequent polymerization to polymerize also monomers with low reactivity to form a solid film. The method gives a holog. film with a high refractive index modulation and a modulated porosity.

L6 ANSWER 2 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 1

ACCESSION NUMBER: 2006:105276 CAPLUS
DOCUMENT NUMBER: 145:345120
TITLE: Dynamic holograms recording in fullerene-containing solid-state matrices: Porous glass slides and PMMA films
AUTHOR(S): Pyajt, A. L.; Andreeva, O. V.; Bespalov, V. G.
CORPORATE SOURCE: University of Washington, Seattle, WA, 98105, USA
SOURCE: Optics Communications (2006), 259(2), 562-568
CODEN: OPCOB8; ISSN: 0030-4018
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Fullerene-containing solid-state matrixes were studied theor. and exptl. as the active material for all-optical switching devices. Dynamics hologram recording and spectral anal. were used to study temporal stability and efficiency of nonlinear response of the media. Porous glass and PMMA hosts were utilized as C60-containing matrixes. Expts. were carried out using nano- and picosecond laser radiation with wavelength 532 nm.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 2007:9278380 INSPEC
TITLE: Organic solvent vapor sensing using porous photopolymer photonic bandgap structures
AUTHOR: Hsiao, V.K.S.; Kirkey, W.D.; Cartwright, A.N.; Prasad, P.N.; (Dept. of Electr. Eng. & Chem., State Univ. of New York, Buffalo, NY, USA), Lloyd, P.F.; Bunning, T.J.
SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (2005), vol.5926, no.1, p. 59260K-1-6, 13 refs.
CODEN: PSISDG, ISSN: 0277-786X
SICI: 0277-786X(2005)5926:1L.59260k:OSVS;1-N
Price: 0277-786X/05/\$15.00
Published by: SPIE-Int. Soc. Opt. Eng, USA
Conference: Tuning the Optical Response of Photonic Bandgap Structures II, San Diego, CA, USA, 31 July 2005
DOCUMENT TYPE: Conference; Conference Article; Journal
TREATMENT CODE: Practical; Experimental
COUNTRY: United States
LANGUAGE: English
AN 2007:9278380 INSPEC
AB Significant research efforts have been focused on the development of effective means for the optical detection of organic molecules using porous one-dimensional photonic bandgap (PBG) structures. To date, efforts have been focused on porous silicon microstructures, which are typically created using a controlled electrochemical etching process in a hydrofluoric acid solution. Generally, these sensors rely on changes in the optical resonance that occurs when the porous structure is filled by the analyte of interest and allows for simple and effective optical detection schemes. Here, we present a simple method for the production of polymer Bragg reflection gratings containing periodic porous layers, and we demonstrate optical detection of organic solvent vapors using these structures. To create the structures, a pre-polymer syrup containing a monomer, a photoinitiator, a co-initiator, liquid crystals (LC), and a non-reactive solvent (acetone or toluene) is sandwiched between two pieces of glass, and the periodic structure is then formed by applying an optical interference pattern generated using a simple one-beam laser setup. More importantly, we demonstrate that acetone vapor penetrates the porous structure and induces a change in the effective refractive index of these gratings that result in a shift in the reflection wavelength. This shift is pronounced, and can easily be observed by eye, or detected by optical means. We also demonstrate that this shift depends on the particular type of chemical vapor and vapor concentration, and the detection is reversible and repeatable. Finally, the addition of aminosilane to the pre-polymer syrup is shown to improve the stability of the resulting gratings, suggesting that this photopolymer fabrication technique could be used to create structures suitable for biological applications in aqueous environments

L6 ANSWER 4 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN
ACCESSION NUMBER: 2006(17):8690 COMPENDEX
TITLE: Nonlithographic fabrication of nanostructured arrays using anodic aluminum oxide films containing highly ordered arrays of pores of 10 to 50nm.
AUTHOR: Yin, A.J. (Division of Engineering Brown University, Providence, RI 02912, United States); Kossyrev, P.; Cloutier, S.G.; Guico, R.S.; Kim, J.H.; Xu, J.M.
MEETING TITLE: 208th Meeting of The Electrochemical Society.
MEETING LOCATION: Los Angeles, CA, United States
MEETING DATE: 16 Oct 2005-21 Oct 2005

SOURCE: Meeting Abstracts v MA 2005-02 2005.p 2502
SOURCE: Meeting Abstracts v MA 2005-02 2005.p 2502
SOURCE: 208th Meeting of The Electrochemical Society - Meeting
Abstracts
ISSN: 1091-8213

PUBLICATION YEAR: 2005

MEETING NUMBER: 67008

DOCUMENT TYPE: Conference Article

TREATMENT CODE: Experimental

LANGUAGE: English

AN 2006(17):8690 COMPENDEX

AB The fabrication of highly ordered and highly uniform structured arrays using conventional Holographic techniques tuned to length scales less than 100 nm is quite challenging. A nonlithographic approach utilizing anodic aluminum oxide (AAO) porous films (pore diameter around 60 nm) as an evaporation or dry etching mask has proven to be successful for the fabrication of various nanostructured arrays (dots, anti-dots, and pillars) on different substrates as reported by both our group and other groups. However, nanostructures containing sub-50 nm features are often needed and their non-lithographic fabrication processes remain largely unexamined. Here, we present for the first time the fabrication of periodically structured AAO through-pore films, i.e. membranes, with diameters down to 10 nm. Membranes with a pore spacing of approximately 100 nm and pore diameters ranging from 30 to 80 nm were obtained using an oxalic acid bath. Membranes with pore diameters ranging from 10 to 25 nm and pore spacings ranging from 25 to 50 nm were obtained using a sulfuric acid bath. Effects of the anodization conditions on the properties of the AAO porous films, specifically brittleness, thickness, and wet-etch rate, were studied. By utilizing these sub-50 nm membranes as a growth stencil, we produced highly ordered nanodot, anti-dot, and nanopillar arrays of various metal and semiconductor materials on different substrates (quartz, Si, GaAs, GaN, and polymer films). By diminishing the length scale of the membrane features, effects due to quantum confinement and size can be drastically enhanced enabling broad applications of the nanostructures. The exceptional ordering and uniformity would also be beneficial in accessing nanostructure interactions, useful in radiation sensing as well as optical emission applications. Utilizing AAO porous films opens a non-lithographic growth pathway for the fabrication of highly ordered sub-50nm structures.

L6 ANSWER 5 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:219280 CAPLUS

DOCUMENT NUMBER: 145:462636

TITLE: Silver-halide photographic materials based on nanoporous glasses

AUTHOR(S): Andreeva, O. V.; Obyknovennaya, I. E.; Gavril'yuk, E. R.; Paramonov, A. A.; Kushnarenko, A. P.

CORPORATE SOURCE: S. I. Vavilov State Optical Institute, All-Russia Scientific Center, St. Petersburg, Russia

SOURCE: Journal of Optical Technology (2005), 72(12), 916-922
CODEN: JOTEE4; ISSN: 1070-9762

PUBLISHER: Optical Society of America

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. Recording media for volume holog. based on composite including porous glass and Ag halide-gelatin photog. material were designed and developed in S.I. Vavilov State Optical Institute.

REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 6 OF 36 INSPEC (C) 2007 IET on STN

ACCESSION NUMBER: 2005:8288720 INSPEC

DOCUMENT NUMBER: A2005-07-8760B-013

TITLE: Interaction of underwater shock waves with fibrillar structures: an experimental study for medical application of extracorporeal shock waves
 AUTHOR: Hosseini, S.H.R.; Yamashita, H.; Moosavi-Nejad, S.; Saito, T.; Takayama, K. (Inst. of Fluid Sci., Tohoku Univ., Sendai, Japan)
 SOURCE: 8th International Congress on Acoustics, 2004, p. 2 pp. of CD-ROM pp., 3 refs.
 ISBN: 4 9901915 6 0
 Published by: Science Council of Japan, Japan, Japan
 Conference: 18th International Congress on Acoustics, Kyoto, Japan, 4-9 April 2004
 Conference; Conference Article
 DOCUMENT TYPE:
 TREATMENT CODE: Experimental
 COUNTRY: Japan
 LANGUAGE: English
 AN 2005:8288720 INSPEC DN A2005-07-8760B-013
 AB In order to simulate interaction of shock waves with intercellular structures, thin porous layers of cotton immersed in water were exposed to underwater shock waves. Shock waves were generated by explosion of 10 mg silver azide pellets, which were ignited by irradiation of a pulsed Nd:YAG laser beam. Peak overpressures were measured with needle hydrophones at various stand-off distances. The motion of shock waves was quantitatively visualized by using double exposure holographic interferometry. The variation of shock waves attenuation with strength of the incident shock waves was studied

L6 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2003:837380 CAPLUS
 DOCUMENT NUMBER: 139:330129
 TITLE: Holographic sensor based on a volume hologram in a porous medium
 INVENTOR(S): Lowe, Christopher Robin; Davidson, Colin Alexander Bennett; Blyth, Jeffrey; Kabilan, Satyamoorthy; Marshall, Alexander James; Gonzalez, Blanca Madrigal; James, Anthony Peter
 PATENT ASSIGNEE(S): Smart Holograms Limited, UK
 SOURCE: PCT Int. Appl., 11 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003087789	A1	20031023	WO 2003-GB1488	20030404
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2481474	A1	20031023	CA 2003-2481474	20030404
AU 2003224254	A1	20031027	AU 2003-224254	20030404
EP 1493018	A1	20050105	EP 2003-720677	20030404
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005522695	T	20050728	JP 2003-584686	20030404
CN 1659430	A	20050824	CN 2003-812953	20030404

US 2006127898 A1 20060615 US 2006-509781 20060103
PRIORITY APPLN. INFO.: GB 2002-7943 A 20020405
WO 2003-GB1488 W 20030404

AB A holog. sensor is described comprising a holog. element comprising a medium and a hologram disposed throughout the volume of the medium, wherein an optical characteristic of the hologram changes as a result of a variation of a phys. property occurring throughout the volume of the medium (e.g., hydroethyl methacrylate polymer), wherein the medium is obtainable by formation in situ in the presence of a pore-forming agent (e.g., water), wherein the agent is not present in the sensor or does not react with the analyte and the sensor.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 2
ACCESSION NUMBER: 2003(46):8590 COMPENDEX
TITLE: Benchmark values for the Soret, thermal diffusion and diffusion coefficients of three binary organic liquid mixtures.
AUTHOR: Platten, J.K. (General Chemistry Service University of Mons-Hainaut, B-7000 Mons, Belgium); Bou-Ali, M.M.; Costeseque, P.; Dutrieux, J.F.; Kohler, W.; Leppla, C.; Wiegand, S.; Wittko, G.
SOURCE: Philosophical Magazine v 83 n 17-18 Jun 11 2003 p 1965-1971
SOURCE: Philosophical Magazine v 83 n 17-18 Jun 11 2003 p 1965-1971
ISSN: 1478-6435.

PUBLICATION YEAR: 2003
DOCUMENT TYPE: Journal
TREATMENT CODE: Theoretical; Experimental
LANGUAGE: English

AN 2003(46):8590 COMPENDEX

AB With the aim of providing reliable benchmark values, we have measured the Soret, diffusion and thermal diffusion coefficients of the three binary mixtures of dodecane, isobutylbenzene and 1,2,3,4 tetrahydronaphthalene for a concentration of 50 wt% at a temperature of 25deg C. The experimental techniques applied by the five participating laboratories are transient holographic gratings, annular and parallelepipedic thermogravitational columns, and vertical parallelepipedic columns with velocity amplitude determination by laser doppler velocimetry. The systems have also been studied in a annular thermogravitational column filled with a porous medium in the gap. There is a good agreement between the different experiments with deviations of the order of a few per cent in most cases (8.5% at most). The numerical values are tabulated in the paper. 29 Refs.

L6 ANSWER 9 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2003:159459 CAPLUS
DOCUMENT NUMBER: 140:50710
TITLE: Impedance measurements around grazing incidence for nonlocally reacting thin porous layers
AUTHOR(S): Allard, Jean-Francois; Henry, Michel; Garetton, Vincent; Jansens, Gert; Lauriks, Walter
CORPORATE SOURCE: Laboratoire d'Acoustique de l'Universite du Maine, UMR CNRS 6613, Le Mans, 72085, Fr.
SOURCE: Journal of the Acoustical Society of America (2003), 113(3), 1210-1215
CODEN: JASMAN; ISSN: 0001-4966
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB For locally reacting materials with a constant surface impedance, a classical method based on the work of Chien and Soroka for measuring this

impedance in situ around grazing incidence is currently used. A generalization of this work to include thin nonlocally reacting materials with a surface impedance noticeably dependent on the angle of incidence was performed. The model by Chien and Soroka can be used, though the constant surface impedance must be replaced by the impedance at grazing incidence for the evaluation of the numerical distance. Measurements performed on a thin porous layer using this method are compared with measurements performed using the near-field acoustical holog. method. Other measurements performed on a fibrous layer are in good agreement with the predicted values of the impedance at grazing incidence.

REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN
 ACCESSION NUMBER: 2001(35):2183 COMPENDEX
 TITLE: Proceedings of SPIE - The International Society for Optical Engineering.
 MEETING TITLE: Optical Organic and Inorganic Materials.
 MEETING ORGANIZER: SPIE
 MEETING LOCATION: Vilnius, Lithuania
 MEETING DATE: 16 Aug 2000-19 Aug 2000
 SOURCE: Proceedings of SPIE - The International Society for Optical Engineering v 4415 2001. 295p
 SOURCE: Proceedings of SPIE - The International Society for Optical Engineering v 4415 2001. 295p
 CODEN: PSISDG ISSN: 0277-786X
 PUBLICATION YEAR: 2001
 MEETING NUMBER: 58345
 DOCUMENT TYPE: Conference Proceedings
 TREATMENT CODE: Theoretical; Experimental
 LANGUAGE: English
 AN 2001(35):2183 COMPENDEX.
 AB The proceedings contains 44 papers from the SPIE Conference on Optical Organic and Inorganic Materials. Topics discussed include: photoinduced anisotropy and holographic recording in amorphous chalcogenides; information quality of volume holographic memory devices; large-format automated pulsed holography camera system; influence of phosphorous sublayer on properties of the selenium and tellurium island layers; effects of localization in CdTe-based quantum well structures and structure investigation of luminescent porous GaAs layers. (Edited abstract)

L6 ANSWER 11 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2001:45948 CAPLUS
 DOCUMENT NUMBER: 134:104688
 TITLE: Silicate-based material suitable for holographic medium and optical articles and its manufacture
 INVENTOR(S): Katz, Howard Edan
 PATENT ASSIGNEE(S): Lucent Technologies Inc., USA
 SOURCE: Eur. Pat. Appl., 10 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1069081	A2	20010117	EP 2000-305568	20000703
EP 1069081	A3	20020109		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6423770	B1	20020723	US 1999-353898	19990715

AU 2000071332	A	20010130	AU 2000-71332	20000703
JP 2001055508	A	20010227	JP 2000-214299	20000714
PRIORITY APPLN. INFO.:			US 1999-353898	A 19990715
			WO 2000-US40297	W 20000703

AB A silicate material, comprising a silicate domain and ≥ 1 substantially nonsilicate domains is described. The material is produced by mixing a templating mixture with a pre-cured resin and ≥ 1 resin precursors. The templating mixture comprises ≥ 1 surfactants, ≥ 1 alcs. and water. A pre-cured resin is formed by reacting ≥ 1 silicate resin precursors with water, and preferably in the presence of a co-solvent and a catalyst. The invention also includes a method for fabricating the silicate material, a holog. medium, an optical article, and a method for fabricating an optical article.

L6 ANSWER 12 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 3

ACCESSION NUMBER: 2001:529631 CAPLUS
 DOCUMENT NUMBER: 135:310793
 TITLE: Transmissive holograms in a porous silver-containing volume medium, recorded with periodic femtosecond pulses
 AUTHOR(S): Andreeva, O. V.; Paramonov, A. A.; Finozhenkova, M. A.; Dement'ev, D. A.; Smolovich, A. M.; Serov, O. B.; Matveets, Yu. A.; Chekalin, S. V.; Kompanets, V. O.
 CORPORATE SOURCE: S. I. Vavilov State Optical Institute, St. Petersburg, Russia
 SOURCE: Journal of Optical Technology (Translation of Opticheskii Zhurnal) (2001), 68(7), 514-515
 CODEN: JOTEE4; ISSN: 1070-9762
 PUBLISHER: Optical Society of America
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB This paper presents the results of expts. that demonstrate that high-efficiency transmissive holograms can be obtained on porous Ag-containing volume media by recording with femtosecond laser pulses in the periodic lasing regime.
 REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 13 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2000:553324 CAPLUS
 DOCUMENT NUMBER: 133:170286
 TITLE: Recording medium and process for forming medium
 INVENTOR(S): Chandross, Edwin Arthur; Dhar, Lisa; Galvin-Donoghue, Mary Ellen; Lowe-Harris, Alexander; Patel, Sanjay; Schilling, Marcia Lea; Schnoes, Melinda Lamont; Wiltzius, Pierre
 PATENT ASSIGNEE(S): Lucent Technologies Inc., USA
 SOURCE: Eur. Pat. Appl., 17 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1026546	A1	20000809	EP 1999-309584	19991130
EP 1026546	B1	20020731		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1998-206441 A 19981207
 AB The invention relates to holog. recording media useful with holog. storage systems, or useful as components such as optical filters or beam steerers. An improved recording medium is provided having a rigid porous matrix

containing a photoimaging system. In contrast to previous media containing porous

matrixes, the invention allows readable holograms to be written in a medium without the need for solvent processing steps subsequent to irradiation. Due to the rigid nature of the matrix, polymerization and/or diffusion during formation of each individual hologram induces only a small level of Bragg detuning. Temperature fluctuations similarly induce only a small Bragg shift. Improved archival life of recorded holograms and improved fidelity of read-out, as well as improved optical elements, are thereby attained. And the avoidance of solvent processing makes the process of recording holograms far easier than in previous porous matrix-based media.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 14 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:352980 CAPLUS
DOCUMENT NUMBER: 131:108807
TITLE: Photopolymer-filled nanoporous glass as a dimensionally stable holographic recording medium
AUTHOR(S): Schnoes, Melinda G.; Dhar, Lisa; Schilling, Marcia L.; Patel, Sanjay S.; Wiltzius, Pierre
CORPORATE SOURCE: Bell Laboratories, Lucent Technologies, Murray Hill, NJ, 07974, USA
SOURCE: Optics Letters (1999), 24(10), 658-660
CODEN: OPLEDP; ISSN: 0146-9592
PUBLISHER: Optical Society of America
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The holog. recording characteristics of a photopolymer-nanoporous-glass composite are reported. An M/# of 3.2 is measured in this medium by angle multiplexing of a series of plane-wave holograms. In addition, the dimensional stability of the material is demonstrated by the negligible Bragg detuning of a set of angle-multiplexed holograms recorded with varying grating tilt angles and by the relative insensitivity of the detuning to changes in temperature

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 15 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 4
ACCESSION NUMBER: 2001(17):4370 COMPENDEX
TITLE: Subwavelength-structured antireflective surfaces on glass.
AUTHOR: Gombert, A. (Fraunhofer Inst for Solar Energy Systems ISE, Freiburg, Ger); Glaubitt, W.; Rose, K.; Dreibholz, J.; Blaeser, B.; Heinzel, A.; Sporn, D.; Doell, W.; Wittwer, V.
MEETING TITLE: Proceedings of the 1998 2nd International Conference on Coatings on Glass (ICCG).
MEETING ORGANIZER: Asahi Glass Co., Ltd.; BOC Coating Technology; Cardinal CG, Spring; LEYBOLD MATERIALS GmbH, et al.
MEETING LOCATION: Saarbrucken, Ger
MEETING DATE: 06 Sep 1998-10 Sep 1998
SOURCE: Thin Solid Films v 351 n 1-2 Aug 1999. p 73-78, Elsevier Sequoia SA, Lausanne, Switzerland
SOURCE: Thin Solid Films v 351 n 1-2 Aug 1999. p 73-78, Elsevier Sequoia SA, Lausanne, Switzerland
CODEN: THSFAP ISSN: 0040-6090
PUBLICATION YEAR: 1999
MEETING NUMBER: 56086
DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
LANGUAGE: English
AN 2001(17):4370 COMPENDEX

AB The usability of porous sol-gel coatings and periodic or stochastic subwavelength surface-relief structures for low-cost broadband antireflective (AR) surfaces on glass and on plastics was studied experimentally. Porous sol-gel coatings were produced by dip-coating on glass. Large-area periodic subwavelength surface-relief master structures were manufactured by holographic exposure of photoresist and transferred into nickel by electroforming. Stochastic surface-relief master structures were produced by a PVD process. The surface-relief structures were replicated in organically modified sol-gel materials on glass and in acrylic materials by embossing. With porous sol-gel coatings and periodic subwavelength surface-relief master structures, hemispherical reflectance values of <1% were achieved for non-absorbing planar sheets. In the case of stochastic surface-relief structures, scatter could not be avoided. Therefore, only very low values of the specular reflectance (<0.5%) were achieved with this approach. (Author abstract) 13 Refs.

L6 ANSWER 16 OF 36 INSPEC (C) 2007 IET on STN

ACCESSION NUMBER: 1998:6035932 INSPEC

DOCUMENT NUMBER: A1998-21-4240E-012; B1998-11-4350-024

TITLE: Holographic recording in a system with annihilating centers: relaxation and suppression of transmission fluctuations of transient gratings

AUTHOR: Kucherenko, M.G. (Dept. of Tech. Phys., Orenburg State Univ., Russia)

SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (1998), vol.3347, p. 302-13, 12 refs.

CODEN: PSISDG, ISSN: 0277-786X

SICI: 0277-786X(1998)3347L.302:HRSW;1-F

Price: 0277-786X/98/\$10.00

Published by: SPIE-Int. Soc. Opt. Eng, USA

Conference: Optical Information Science and Technology '97. Optical Recording Mechanisms and Media, Moscow, Russia, 27-30 Aug. 1997

Sponsor(s): SPIE; Russian Acad. Sci.; Russian Found. Basic Res.; et al

DOCUMENT TYPE: Conference; Conference Article; Journal

TREATMENT CODE: Theoretical; Experimental

COUNTRY: United States

LANGUAGE: English

AN 1998:6035932 INSPEC DN A1998-21-4240E-012; B1998-11-4350-024

AB The holographic recording of gratings on excited triplet (T) annihilating centers in rigid medium is proposed. The annihilation stage of the reaction T+T→O is visualized by measuring of the diffraction picture dynamics. It has been found theoretically that the second range diffraction maximum appears because of the nonsinusoidal grating form. The analytical expressions for the intensity of first and second range diffraction maximum are obtained. The fluctuations of the transient grating transmission, τ_A , in a porous medium are investigated. The drastic decrease in the disperse $\delta\tau_A$ is observed for the system with annihilating excited triplet centers. Two species of the reaction mechanism are studied: static and diffusion-accelerated annihilation. In the second case the reduction of $\delta\tau_A$ was greater. The squeezed fluctuations effect induced by additional laser pulse is discussed

L6 ANSWER 17 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 5

ACCESSION NUMBER: 1998:397531 CAPLUS

DOCUMENT NUMBER: 129:142491

TITLE: X-ray diffraction and reflectometry studies of porous silicon: n-type layers and holographic gratings

AUTHOR(S): Chamard, V.; Dolino, G.; Lerondel, G.; Setzu, S.

CORPORATE SOURCE: UMR 5588 CNRS, Laboratoire de Spectrometrie Physique,
BP 87, Universite J. Fourier, Grenoble I, Saint Martin
d'Heres, 38402, Fr.

SOURCE: Physica B: Condensed Matter (Amsterdam) (1998), 248,
101-103

CODEN: PHYBE3; ISSN: 0921-4526

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB -Ray diffraction and reflectometry allows the measurements of various parameters (thickness, porosity, roughness and strain) of thin layers of porous silicon. Measurements on n-type porous silicon layers of different doping give very different results: for lightly doped samples, the layer properties vary smoothly as a function of formation time, while for heavily doped samples several regimes are observed for short formation times. X-ray satellites have been observed in the X-ray reflexion or diffraction from holog. gratings.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 18 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN DUPLICATE 6

ACCESSION NUMBER: 1997:237041 CAPLUS

DOCUMENT NUMBER: 126:349638

TITLE: Sol-gel porous glass as holographic medium

AUTHOR(S): Sukhanov, V. I.; Kursakova, A. M.; Kuchinsky, S. A.; Gavrilyuk, E. R.; Zerda, T. W.

CORPORATE SOURCE: Vavilov State Optical Institute, St.-Petersburg, 199034, Russia

SOURCE: Journal of Sol-Gel Science and Technology (1997), 8(1/2/3), 1111-1114

CODEN: JSGTEC; ISSN: 0928-0707

PUBLISHER: Kluwer

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Expts. on hologram recording in porous structure obtained by the sol-gel technol. were performed. It was shown that holograms with a diffraction efficiency close to 100% can be obtained with the exposure of about 0.1 J/cm. A pronounced birefringence was observed in dry samples, but it diminished upon immersion in liqs. To explain this effect, a theor. model was developed. It was shown that even a low asymmetry in pore structure leads to a pronounced birefringence.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 19 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN

ACCESSION NUMBER: 2002(40):3597 COMPENDEX

TITLE: Holographic recording in the system with annihilating centers. Relaxation & suppression of the transmission fluctuations of transient gratings.

AUTHOR: Kucherenko, Michael G. (Orenburg State University Dept. of Technical Physics, Orenburg 460352, Russian Federation)

MEETING TITLE: Optical Information Science and Technology 1997: Optical Recording Mechanisms and Media.

MEETING ORGANIZER: SPIE

MEETING LOCATION: Moscow, Russian Federation

MEETING DATE: 27 Aug 1997-30 Aug 1997

SOURCE: Proceedings of SPIE - The International Society for Optical Engineering v 3347 1997.p 302-313

SOURCE: Proceedings of SPIE - The International Society for Optical Engineering v 3347 1997.p 302-313

CODEN: PSISDG ISSN: 0277-786X

PUBLICATION YEAR: 1997

MEETING NUMBER: 59768
DOCUMENT TYPE: Conference Article
TREATMENT CODE: Theoretical; Experimental
LANGUAGE: English

AN 2002(40):3597 COMPENDEX

AB The holographic record of gratings on excited triplet (T) annihilating centers in rigid mediums is proposed. The annihilation stage of the reaction $T + T \rightarrow O$ is visualized by measuring of the diffraction picture dynamics. It has been found theoretically that the second range diffraction maximum is appear in consequence of the nonsinusoidal grating form. The analitical expressions for the intensity of first and second range diffraction maximum are obtained. The fluctuations of the transient grating transmission, τ_A , in a porous medium are investigated. The drastic decrease in the disperse $\delta\tau_A$ is observed for the system with annihilating excited triplet centers. Two species of the reaction mechanism are studied: static and diffusion - accelerated annihilation. In the second case the reduction of $\delta\tau_A$ was greater. The squeezed fluctuations effect induced by additional laser pulse is discussed. 12 Refs.

L6 ANSWER 20 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 7
ACCESSION NUMBER: 1997(21):2041 COMPENDEX
TITLE: Experiments on double-diffusion in a composite system comprised of a packed layer of spheres and an underlying fluid layer.
AUTHOR: Rastogi, S.K. (Univ of Illinois, Chicago, IL, USA); Poulikakos, D.
SOURCE: Heat and Mass Transfer/Waerme- und Stoffuebertragung v 32 n 3 Feb 1997.p 181-191
SOURCE: Heat and Mass Transfer/Waerme- und Stoffuebertragung v 32 n 3 Feb 1997.p 181-191
CODEN: HMTRF8 ISSN: 0042-9929
PUBLICATION YEAR: 1997
DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
LANGUAGE: English

AN 1997(21):2041 COMPENDEX

AB In this paper an experimental study is reported on the problem of double-diffusion in a composite system comprised of a liquid-saturated packed layer of spheres and an underlying clear (of solid matrix) fluid layer. The liquid is a mixture of water and ammonium chloride. The initial species concentration of the porous layer is linear and stable and of the clear liquid layer uniform. The system is initially isothermal and it is suddenly cooled from above. The study investigates the evolving temperature and flow fields in the system by utilizing direct temperature measurements as well as holographic interferometry visualization of the density field. The effect of the thermal Rayleigh number, the species Rayleigh number, the thermal conductivity of the beads constituting the porous matrix, and the height of the porous matrix on the evolving temperature and flow fields are determined. Comparisons of the experimental results to the predictions of an existing theoretical model define the limitations of this model and the time domain in which the model performs acceptably well. The findings of this study are relevant to double-diffusion phenomena occurring in the mixed phase and liquid regions of solidifying binary mixtures. (Author abstract) 36 Refs.

L6 ANSWER 21 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1997:5586502 INSPEC
DOCUMENT NUMBER: A1997-13-4240E-005; B1997-07-4350-008
TITLE: New media based on modified silicon films for laser pulsed recording
AUTHOR: Savchuk, A.V.; Sal'kova, E.N.; Sergan, T.A.; Soskin, M.S.; (Inst. of Phys., Acad. of Sci., Kiev, Ukraine), Svechnikov, S.V.; Manoilov, E.G.; Kaganovich, E.B.

SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (Feb. 1997), vol.3055, p. 147-52, 7 refs.
CODEN: PSISDG, ISSN: 0277-786X
SICI: 0277-786X(199702)3055L.147:MBMS;1-0
Price: 0277-786X/97/\$10.00
Published by: SPIE-Int. Soc. Opt. Eng, USA
Conference: International Conference on Optical Storage, Imaging, and Transmission of Information, Kiev, Ukraine, 14-16 May 1996
Sponsor(s): SPIE

DOCUMENT TYPE: Conference; Conference Article; Journal
TREATMENT CODE: Experimental
COUNTRY: United States
LANGUAGE: English

AN 1997:5586502 INSPEC DN A1997-13-4240E-005; B1997-07-4350-008
AB The development of new irreversible storage media, based on anodically etched and oxidized porous silicon and on nanocrystalline composite silicon films prepared by reactive pulsed laser deposition, is discussed for pulsed laser recording

L6 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:541083 CAPLUS
DOCUMENT NUMBER: 127:197659
TITLE: Diffraction efficiency of silver-containing holograms on porous glasses in the red- and IR spectral regions
AUTHOR(S): Andreeva, O. V.; Korzinin, Yu. L.; Nazarov, V. N.; Gavrilyuk, E. R.; Kursakova, A. M.
CORPORATE SOURCE: VNTs "GOI im. Vavilova", St. Petersburg, Russia
SOURCE: Opticheskii Zhurnal (1997), 64(4), 142-146
CODEN: OPZHE3; ISSN: 1023-5086
PUBLISHER: Gosudarstvennyi Opticheskii Institut im. S. I. Vavilova
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Phase modulation was estimated of different silver-containing transmission holograms on porous glasses in red- (0.633μ) and IR (1.56μ) spectral regions. Holograms with high diffraction efficiency in the IR range were obtained in silver-containing porous glasses at high transparency of the recording medium. With change of the read-out radiation wavelength from 0.633μ to 1.56μ phase modulation of these porous holograms decreased 4-5 times, and at the same time modulation changed 1.5-2 times (as determined by refractive index). The parameters of silver-containing holograms (in contrast to porous holog. on dichromated gelatin) were not affected by filling the pores by immersion fillers with refractive index the same as diffractive index of the quartz framework.

L6 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1997:547681 CAPLUS
TITLE: Nonspatial filter for laser beams
AUTHOR(S): Ludman, J. E.; Riccobono, J.; Reinhard, N.; Korzini, Yu.; Semenova, I.; Shahriar, S. M.
CORPORATE SOURCE: North-East Photosciences, Hollis, USA
SOURCE: Kvantovaya Elektronika (Moscow) (1996), 23(12), 1123-1127
CODEN: KVEKA3; ISSN: 0368-7147
PUBLISHER: Radio i Svyaz
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB A nonspatial filter was developed to perform the same task as a traditional pinhole or fiber spatial filter: the filtering of spatial frequencies in laser beams. However, the new filter operates directly in a laser beam without focusing it. This makes it possible to eliminate

many of the alignment instabilities and laser power limitations of spatial filters. The new filter is based on the Bragg selectivity of thick holograms. Two-dimensional filtering requires insertion of two different holograms in the light path. The requirements which holograms must satisfy, as well as those imposed on a holog. material to reach a bandwidth of about $10^{-3} \cdot 10^{-4}$ rad for the angular selectivity contour amounting, are considered. Standard holog. materials are unsuitable for this application because of differential shrinkage during processing, which limits the maximum attainable Bragg angular selectivity. A new 'porous' holog. material is developed which is heterogeneous: it consists of a porous silicate matrix impregnated with a photosensitive medium. Calcns. and expts. show that it is an ideal material for our task and it satisfies the necessary requirements: its thickness is several millimeters or more, it does not shrink, it makes it possible to attain the necessary refractive index modulation, etc. Potential applications of such highly selective filters are wide: they can be used to 'clean up' conventional laboratory and industrial laser beams, they can be mounted inside laser cavities for filtering of spatial frequencies and mode selection, they are promising for spectroscopy and correction of corrupted wavefronts, etc.

L6 ANSWER 24 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1997:5479980 INSPEC
DOCUMENT NUMBER: A1997-05-4280C-001; B1997-03-4320M-001
TITLE: Nonspatial filter for laser beams
AUTHOR: Ludman, J.E.; Riccobono, J.; (Northeast Photosciences, Hollis, NH, USA), Reinhard, N.; Korzinin, Yu.; Semenova, I.; Shahriar, S.M.
SOURCE: Quantum Electronics (Dec. 1996), vol.26, no.12, p. 1093-6, 3 refs.
CODEN: QUELEZ, ISSN: 1063-7818
SICI: 1063-7818(199612)26:12L.1093:NFLB;1-F
Translation of: Kvantovaya Elektronika, Moskva (Dec. 1996), vol.23, no.12, p. 1123-7
CODEN: KVEKA3, ISSN: 0368-7147
SICI: 0368-7147(199612)23:12L.1123;1-U
Published by: Turpion Ltd.; Kvantovaya Elektronika, UK
DOCUMENT TYPE: Journal; Translation Abstracted
TREATMENT CODE: Theoretical; Experimental
COUNTRY: United Kingdom; Russian Federation
LANGUAGE: English
AN 1997:5479980 INSPEC DN A1997-05-4280C-001; B1997-03-4320M-001
AB A nonspatial filter was developed to perform the same task as a traditional pinhole or fibre spatial filter: the filtering of spatial frequencies in laser beams. However, the new filter operates directly in a laser beam without focusing it. This makes it possible to eliminate many of the alignment instabilities and laser power limitations of spatial filters. The new filter is based on the Bragg selectivity of thick holograms. Two-dimensional filtering requires insertion of two different holograms in the light path. The requirements which holograms must satisfy, as well as those imposed on a holographic material to reach a bandwidth of about $10^{-3} \cdot 10^{-4}$ rad for the angular selectivity contour amounting, are considered. Standard holographic materials are unsuitable for this application because of differential shrinkage during processing, which limits the maximum attainable Bragg angular selectivity. A new 'porous' holographic material is developed which is heterogeneous: it consists of a porous silicate matrix impregnated with a photosensitive medium. Calculations and experiments show that it is an ideal material for our task and it satisfies the necessary requirements: its thickness is several millimetres or more, it does not shrink, it makes it possible to attain the necessary refractive index modulation, etc

ACCESSION NUMBER: 1996:648298 CAPLUS
DOCUMENT NUMBER: 126:24774
TITLE: Laser induced periodic structures in porous silicon
AUTHOR(S): Vlad, V. I.; Petris, A.; Chumash, V. N.; Cojocaru, I.
CORPORATE SOURCE: Department of Lasers, Institute of Atomic Physics,
Magurele, Bucharest, 76900, Rom.
SOURCE: Applied Surface Science (1996), 106 (Proceedings of the
Second International Conference on Photo-Excited
Processes and Applications, 1995), 356-360
CODEN: ASUSEE; ISSN: 0169-4332
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Permanent relief holog. gratings with variable modulation depth
have been induced in porous Si films using the
interference of two beams obtained by a frequency-doubled Nd:YAG laser
($\lambda = 530$ nm) and a conventional optical setup. Consequently, the
gratings have been confined in the porous Si film and the diffraction has
been observed by reflection. For an angle of 6° between the
interfering beams and for diffracted light at 530 and 633 nm, the
Raman-Nath condition is fulfilled and we have observed up to 11 diffraction
orders (large phase modulation). We assume that the periodic structures
are obtained by thermal effects, which appear in porous Si film from very
low laser beam fluences.

L6 ANSWER 26 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1996:463255 CAPLUS
DOCUMENT NUMBER: 125:188995
TITLE: A study of entrapped enzyme stability and substrate
diffusion in a monoglyceride-based cubic liquid
crystalline phase
AUTHOR(S): Nylander, Tommy; Mattisson, Charlotte; Razumas,
Valdemaras; Miezis, Yvonne; Hakansson, Bjoern
CORPORATE SOURCE: Department of Food Technology, University of Lund,
P.O. Box 124, Lund, S-22100, Swed.
SOURCE: Colloids and Surfaces, A: Physicochemical and
Engineering Aspects (1996), 114 (Collection of Papers
presented at the Workshop "Bubble and Drop 95", 1995),
311-320
CODEN: CPEAEH; ISSN: 0927-7757
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Our recent results have shown that enzymes with mol. wts. of up to 590 kDa
can be entrapped in cubic liquid crystalline phases in lipid/aqueous systems.
In the present study, both pure monoolein and monoolein/phosphatidylcholine
mixts. were used for the preparation of the cubic phases. Electrochem.
measurements of the enzyme activity show that the entrapment in the cubic
phase is liable to stabilize the enzyme. The interactions between protein
mols. and a periodically curved lipid bilayer in these systems still
remain to be elucidated. However, our data show that the composition of the
lipid might influence the stability of the enzyme; i.e., the introduction
of the zwitterionic phosphatidylcholine leads to an increase in the
long-term stability of glucose oxidase. This can probably be assigned
both to the differences in the polar interface of the lipid bilayer and
the changes in structure of the cubic phase. The properties of biosensors
constructed from cubic phases containing glucose oxidase and ceruloplasmin
were compared. Both enzymes have about the same mol. weight, but different
electrochem. reactions were used for monitoring the enzyme activity. We
have also studied the diffusion of a substrate mol., glucose, in the cubic
phase by means of holog. laser interferometry, NMR, and chronoamperometry
to obtain more information on the cubic phase as a support for enzyme
immobilization.

L6 ANSWER 27 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1996:5147184 INSPEC
DOCUMENT NUMBER: A1996-03-4240E-013; B1996-02-4350-031
TITLE: 3-D transmission gratings in silver-containing porous glass holographic material
AUTHOR: Andreyeva, O.V.; Kursakova, A.M.; Korzinin, Yu.L.; Nazarov, V.N.; Gavriluk, E.R. (Vavilov (S.I.) State Opt. Inst., St. Petersburg, Russia)
SOURCE: Proceedings of the SPIE - The International Society for Optical Engineering (1995), vol.2405, p. 111-19, 5 refs.
CODEN: PSISDG, ISSN: 0277-786X
SICI: 0277-786X(1995)2405L.111:TGSC;1-6
Price: 0 8194 1752 1/95/\$6.00
Published by: SPIE-Int. Soc. Opt. Eng, USA
Conference: Holographic Materials, San Jose, CA, USA, 8 Feb. 1995
Sponsor(s): SPIE
DOCUMENT TYPE: Conference; Conference Article; Journal
TREATMENT CODE: Experimental
COUNTRY: United States
LANGUAGE: English
AN 1996:5147184 INSPEC DN A1996-03-4240E-013; B1996-02-4350-031
AB The studies have been performed on new volume (about 1 mm thick) recording medium based on porous glasses and light-sensitive silver compounds. It was shown that the materials of the sort make it possible to create holograms with high values of phase modulation not only in visible, but also in near infrared spectral regions. The essential feature of the media is the fact that the parameters of the developed holograms are independent of impregnation of free volume with immersion filler having the refractive index equal to that of the framework. That makes it possible to obtain high efficiency holograms with low level of light scattering and high optical quality of reconstructed wavefront

L6 ANSWER 28 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1995:4844992 INSPEC
DOCUMENT NUMBER: A1995-02-4270C-004; B1995-02-4110-003
TITLE: Porous glass as a storage medium
AUTHOR: Sukhanov, V.I. (All-Russia Res. Center, Vavilov (S.I.) State Opt. Inst.; St. Petersburg, Russia)
SOURCE: Optica Applicata (1994), vol.24, no.1-2, p. 13-26, 23 refs.
CODEN: OPAPBZ, ISSN: 0078-5466
Conference: Seminar on Alkali Silicate Glasses PGL'94, Karpacz, Poland, 6-10 June 1994
DOCUMENT TYPE: Conference; Conference Article; Journal
TREATMENT CODE: Theoretical; Experimental
COUNTRY: Poland
LANGUAGE: English
AN 1995:4844992 INSPEC DN A1995-02-4270C-004; B1995-02-4110-003
AB The possibility of porous glass usage as a base of light-sensitive capillary composites for holography is discussed. The principles of hologram formation in such a heterogeneous medium are examined. Predicted formation mechanisms of the holographic structure are realized experimentally. It is shown that porous glass not only determine the composites structure, but can be used as one of the components of light-sensitive system

L6 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1994:560022 CAPLUS
DOCUMENT NUMBER: 121:160022
TITLE: Cooling and freezing behaviors of an aqueous sodium chloride solution through a micro porous film

AUTHOR(S) : Narumi, Akira; Kashiwagi, Takao; Nakane, Ichirou
CORPORATE SOURCE: Dep. Mech. Eng., Kanagawa Inst. Technol., Atsugi,
243-02, Japan
SOURCE: Imaging Transp. Processes, [Proc. Int. Semin.] (1993),
Meeting Date 1992, 401-13. Editor(s): Sideman,
Samuel; Hijikata, Kunio. Begell House: New York, N.
Y.
CODEN: 60KCAW
DOCUMENT TYPE: Conference
LANGUAGE: English

AB The cooling and freezing processes of an aqueous NaCl solution through a micro porous film were visualized and measured by using the real time laser holog. interferometry, in order to acquire basic knowledge on freezing of food. These processes were discussed by comparing expts. using water and aqueous NaCl solution, partition of copper or

a permeable film and no partition. In the case of a NaCl solution, there is no significant difference in the cooling process due to the different partitions. In the freezing process, NaCl rejected by solidification in the 1st cell goes into the 2nd cell, passing through the micro porous film with the progress of solidification. Thus, it is necessary to consider mass transfer through the porous film, after solidification, in analyzing freezing of food. In the case of water, water itself passes through the micro porous film. However, there is little difference in the heat transfer characteristics between the results using a film and those using copper plate where water can not pass.

L6 ANSWER 30 OF 36 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1991:418446 CAPLUS
DOCUMENT NUMBER: 115:18446
TITLE: Analysis of Focar-type silver halide heterogeneous media
AUTHOR(S) : Andreeva, O. V.
CORPORATE SOURCE: State Opt. Inst., Leningrad, USSR
SOURCE: Proceedings of SPIE-The International Society for Optical Engineering (1991), 1238(Three-Dimens.
Hologr.: Sci., Cult., Educ.), 231-4
CODEN: PSISDG; ISSN: 0277-786X
DOCUMENT TYPE: Journal
LANGUAGE: English
AB An anal. of Focar-S, a new material for 3-D holograms recording, was carried out. The new material comprises a heterogeneous medium based on porous glass and Ag halide as a light sensitive substratum. Characteristics of obtained holograms for both non-developed and developed samples are discussed.

L6 ANSWER 31 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1991:3957091 INSPEC.
DOCUMENT NUMBER: A1991-108469
TITLE: Modeling, computations and measurement techniques [heat transfer]
SOURCE: Heat Transfer 1990. Proceedings of the Ninth International Heat Transfer Conference, 1990, p. 123-264 vol.3 of 7 vol. (xl+474+594+479+459+528+489+xx xvi+228) pp., 0 refs.
Editor(s): Hetsroni, G.
ISBN: 0 89116 909 1
Published by: Hemisphere, New York, NY, USA
Conference: Heat Transfer 1990. Proceedings of the Ninth International Heat Transfer Conference, Jerusalem, Israel, 19-24 Aug. 1990
Conference; Conference Article
TREATMENT CODE: Practical; Experimental
COUNTRY: United States

LANGUAGE: English
AN 1991:3957091 INSPEC DN A1991-108469
AB The following topics were dealt with: boundary vorticity; boiling water reactor accidents; linear thermal problems; gas analysis; Seebeck effect; radiometry; heat partition; surface temperatures; boundary conditions; porous media; double diffusive convection; spray droplets; holographic visualisation; digital image processing; thermal conductivity; hot strip method; thermocouple plug assembly; local wall shear stress; optical fibre refractometer; heat exchanger performance evaluation; fouling monitoring; expert systems; computational fluid dynamics; digital simulation; spectral element-RNG simulation; heat flux meters; thermal conductivity probes

L6 ANSWER 32 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1991:3934110 INSPEC
DOCUMENT NUMBER: A1991-090804; B1991-050856
TITLE: Formation of the holographic structure of a holographic mirror by post-exposure treatment of a dichromated gelatin layer
AUTHOR: Kuzilin, Yu.E.; Melnichenko, Yu.B.; Shilov, V.V.
SOURCE: Optics and Spectroscopy (July 1990), vol.69, no.1, p. 106-8, 20 refs.
CODEN: OPSUA3, ISSN: 0030-400X
Price: 0030-400X/90/070106-03\$05.00
Translation of: Optika i Spektroskopiya (July 1990), vol.69, no.1, p. 174-7
CODEN: OSFMA3, ISSN: 0030-4034
DOCUMENT TYPE: Journal; Translation Abstracted
TREATMENT CODE: Experimental
COUNTRY: United States; USSR
LANGUAGE: English
AN 1991:3934110 INSPEC DN A1991-090804; B1991-050856
AB Spectrophotometry and molecular light scattering techniques are employed to investigate the formation of the holographic structure of a holographic mirror by post-exposure treatment of an ammonium-dichromate-sensitized nonpretanned gelatin layer. It is demonstrated that the induced phase contrast of the holographic structure results from the phase separation of the water-gelatin-isopropyl-alcohol system into two phases, one of which is solvent-enriched, while the other is polymer-enriched, as well as polymer vitrification and the resulting cessation of the development of phases in the system and pore formation due to solvent extraction from the recording medium. The pore distribution and size is determined by the density of the initial cross-links as well as those resulting from photo- and dark reactions in the bulk of the recording medium

L6 ANSWER 33 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN DUPLICATE 9
ACCESSION NUMBER: 1989(10):100048 COMPENDEX
DOCUMENT NUMBER: 8910103172
TITLE: Mechanism of hologram formation in DMP-128 photopolymer.
AUTHOR: Ingwall, Richard T. (Polaroid Corp, Cambridge, MA, USA); Troll, Mark
SOURCE: Opt Eng v 28 n 6 Jun 1989 p 586-591
SOURCE: Opt Eng v 28 n 6 Jun 1989 p 586-591
CODEN: OPEGAR ISSN: 0091-3286
PUBLICATION YEAR: 1989
DOCUMENT TYPE: Journal
TREATMENT CODE: Application; Theoretical; Experimental
LANGUAGE: English
AN 1989(10):100048 COMPENDEX DN 8910103172
AB Electron micrographs of volume phase holograms recorded in DMP-128 reveal microstructure that is responsible for holographic

activity. Solid and porous layers alternate with a spacing commensurate with the recorded fringe pattern. The difference in material density between the solid and porous regions accounts for the refractive index modulation and therefore the holographic activity of DMP-128 holograms. The pores of the holograms are interconnected and can be filled with many low and moderate viscosity liquids. Diffraction efficiency, bandwidth, and wavelength of maximum efficiency are profoundly and predictably affected by filling the hologram pores. (Author abstract) 12 Refs.

L6 ANSWER 34 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN
ACCESSION NUMBER: 1986(8):116783 COMPENDEX
DOCUMENT NUMBER: 860873827
; *8669905
TITLE: GRAVITATIONAL EFFECTS DURING DIFFUSIONAL MASS TRANSFER AT THE PORE-SCALE.
AUTHOR: Mahers, Eric G. (Imperial Coll, London, Engl); Dawe, Richard A.
SOURCE: SPE Form Eval v 1 n 2 Apr 1986 SPE 12679, p 184-192
SOURCE: SPE Form Eval v 1 n 2 Apr 1986 SPE 12679, p 184-192
CODEN: SFEVEG
PUBLICATION YEAR: 1986
DOCUMENT TYPE: Journal
TREATMENT CODE: Application; Experimental
LANGUAGE: English
AN 1986(8):116783 COMPENDEX DN 860873827; *8669905
AB A novel approach to study and to quantify diffusional mass transfer at the pore scale is by holographic interferometry. This is a passive technique as information is obtained from what is occurring within the pores while the fluids in the pores are not physically disturbed. The porous media used were transparent micromodels with carefully designed two-dimensional (2D) network patterns where fluids could be readily trapped. This work is pertinent to enhanced oil recovery. This paper gives examples for both miscible and partially miscible systems and demonstrates that the alignment of the pores with respect to the gravitational field is a significant factor in the mass transfer. The correct modeling of the pore-scale mass-transfer phenomena is essential for proper scaling to reservoir EOR processes. (Edited author abstract) 15 refs.

L6 ANSWER 35 OF 36 COMPENDEX COPYRIGHT 2007 EEI on STN
ACCESSION NUMBER: 1985(8):114118 COMPENDEX
TITLE: OPTICS OF AIRCRAFT SHEAR FLOWS.
AUTHOR: Craig, J.E. (Spectron Development Lab Inc, Costa Mesa, CA, USA); Rose, W.C.
MEETING TITLE: AIAA Shear Flow Control Conference.
MEETING ORGANIZER: AIAA, New York, NY, USA
MEETING LOCATION: Boulder, CO, USA
MEETING DATE: 12 Mar 1985-14 Mar 1985
SOURCE: AIAA Paper Publ by AIAA, New York, NY, USA
AIAA-85-0557, 10p
SOURCE: AIAA Paper Publ by AIAA, New York, NY, USA
AIAA-85-0557, 10p
CODEN: AAPRAQ ISSN: 0146-3705
PUBLICATION YEAR: 1985
MEETING NUMBER: 06585
DOCUMENT TYPE: Conference Article
LANGUAGE: English
AN 1985(8):114118 COMPENDEX
AB This paper examines the aero-optics of laser propagation through aircraft turbulent boundary layers and porous fence generated shear layers. Using optical instrumentation with fast time resolution through a finite aperture, the optical performance was determined and compared with the infinite aperture aerodynamically derived performance. A

custom Q-switched Nd:YAG doubled pulsed laser, and a holographic camera recorded the random flow field in a double pass, double pulse mode. Aerodynamic parameters were measured using hot film anemometer probes and a five-hole pressure probe. 4 refs.

L6 ANSWER 36 OF 36 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1982:1857853 INSPEC
DOCUMENT NUMBER: A1982-055677
TITLE: Heat transfer in vertical gaps
AUTHOR: Koster, J.N. (Inst. fur Reaktorbauelemente,
Kernforschungszentrum Karlsruhe, Karlsruhe, West
Germany)
SOURCE: International Journal of Heat and Mass Transfer (March
1982), vol.25, no.3, p. 426-8, 9 refs.
CODEN: IJHMAK, ISSN: 0017-9310
DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
COUNTRY: United Kingdom
LANGUAGE: English
AN 1982:1857853 INSPEC DN A1982-055677
AB Interferometric studies of hydrodynamic stability in slender vertical gaps (Hele-Shaw boxes) heated from below were performed. Using real time holographic interferometry the heat transfer at the horizontal boundaries can be determined. The advantage of holographic compared to other interferometers is that inhomogeneous optical properties of the transparent test box walls do not influence the interferograms. Fluid flow in Hele-Shaw boxes is often used to simulate flow through porous media. In this context this investigation is of interest to understand transport phenomena in groundwater and oil flow

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